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Gabor Fodor

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EXAMINER

CATTUNGAL, AJAY P

ART UNIT

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2419

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/584,862 | Applicant(s) FODOR ET AL. | |
| | Examiner AJAY P. CATTUNGAL | Art Unit 2419 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-11, 17-19 and 27 is/are rejected.
- 7) ☒ Claim(s) 4-8, 12-16 and 20-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/28/06, 04/08/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on April 08 2009 has been fully considered but are not deemed persuasive.
 - Claims 2-4 and 9-24 have been amended.
 - Claims 25, 26 are cancelled.
 - New claim 27 is added.

Response to Arguments

2. The applicant's argues that Narayanan et al. does not teach multiple flows happening in parallel between the two terminals. The examiner wants to point out that, the claim language of the claims 1, 9, 17 does not claim multiple flows happening between the two terminals. The examiner also want to point out that Narayanan et al. Col 3 lines 17-21 teaches of dividing the context in to dynamic context and common context and storing in two different devices. Narayanan et al. does not teach middlebox or a Midcom agent but the Middlebox NPL teaches of a middlebox and a midcom Agent which could be the two devices that could store the contexts.

The applicant argues that the Middlebox NPL teaches a middlebox is associated with a number of application specific Midcom agents to which it may delegate the application specific processing. The Examiner want to point out that, Page 10, Para 1-2 teach of bundled session application and also teach that in majority of the cases a single midcom agent handles a middlebox.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3, 9-11, 17-19, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshmi Narayanan et al (US 7,420,943) in view of P. Srisuresh, "Middlebox Communications (MIDCOM) Architecture and framework", IETF RFC3303; <http://www.ietf.org/rfc/rfc3303.txt> (Middlebox NPL).

Re claim 1, Lakshmi Narayanan et al discloses a method for handling context of data packet flows, said flows being simultaneous and belonging to the same session, between terminals through a network structure comprising at least a network comprising

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a number of routers(AR) for routing data packet flows between the routers along data packet flow paths connecting said terminals (mobile nodes), of which terminals at least one is mobile (leaving office and entering outside world) and may change access between different access points of said network structure, Wherein an access point comprises an access router (AR) (See figure 1 and column 3 lines 5-17). Lakshmi Narayanan et al does not explicitly disclose a method wherein an access point comprises an access router and a middlebox, which is controlled and supported by an associated Midcom Agent belonging to a domain of said network structure, of the method comprising: - dividing the total context associated to a session into common context, which is common to all flows of the session, and one dynamic context per data packet flow of the session; - storing said common context in a Midcom Agent of a first domain of the

network; - storing each dynamic context in a middlebox through which the associated flow passes; However, Middlebox NPL teaches of a method wherein an access point comprises an access router and a middlebox (middlebox communication), which is controlled and supported by an associated Midcom Agent (Midcom Agent) belonging to a domain of said network structure, of the method comprising: - dividing the total context associated to a session into common context, which is common to all flows of the session (page 9 lines 5 and 6 middlebox to delegate application specific processing to the midcom agent), and one dynamic context per data packet flow of the session; - storing said common context in a Midcom Agent of a first domain of the network(see page 8 fig 1 Proxy server and page 9 lines 5 and 6 middlebox to delegate

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application specific processing to the midcom agent);

- storing each dynamic context in a middlebox through which the associated flow passes (Page 8 Figure 1 Proxy server and Middlebox function specific policy rules and other attributes). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the dividing of the total context of Middlebox NPL with the network structure of Lakshmi Narayanan et al. in order to have a network intermediary device that performs one or more services.

Re claim 2, Note that Lakshmi Narayanan et al. discloses transferring dynamic context (context transfer) associated to a data packet flow, when a data packet flow is moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in an access point (AR1) in said first domain or to a middlebox (AAA) of an access point (AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 Para 2 and 3).

Re claim 3, Note that Middlebox NPL teaches A method of keeping in the Midcom Agent (MIDCOM agent) of the first domain the common context (application specific processing) of data packet flows of a session and the control (invoke services of the middlebox) of the dynamic context (permit access) of each flow in middleboxes through which the data packets of the session flows as long as there is one flow belonging to said session in said first domain (page 8 fig 1 and page 9 lines 1- 9).

Re claim 9, Lakshmi Narayanan et al discloses a method for handling context of data packet flows, said flows being simultaneous and belonging to the same session, between terminals through a network structure comprising at least a network comprising a number of routers(AR) for routing data packet flows between the routers along data

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packet flow paths connecting said terminals (mobile nodes), of which terminals at least one is mobile (leaving office and entering outside world) and may change access between different access points of said network structure, Wherein an access point comprises an access router (AR) (See fig 1 and col 3 lines 5-17). Lakshmi Narayanan et al does not explicitly disclose a method wherein an access point comprises an access router and a middlebox, which is controlled and supported by an associated Midcom Agent belonging to a domain of said network structure, of the method comprising: - dividing the total context associated to a session into common context, which is common to all flows of the session, and one dynamic context per data packet flow of the session; - storing said common context in a Midcom Agent of a first domain of the network; - storing each dynamic context in a middlebox through which the associated flow passes; However, Middlebox NPL teaches of a method wherein an access point comprises an access router and a middlebox (middlebox communication), which is controlled and supported by an associated Midcom Agent (Midcom Agent) belonging to a domain of said network structure, of the method comprising: - dividing the total context associated to a session into common context, which is common to all flows of the session (page 9 lines 5 and 6 middlebox to delegate application specific processing to the midcom agent), and one dynamic context per data packet flow of the session; - storing said common context in a Midcom Agent of a first domain of the network(see page 8 fig 1 Proxy server and page 9 lines 5 and 6 middlebox to delegate application specific processing to the midcom agent); - storing each dynamic context in a middlebox through which the associated

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flow passes (Page 8 Figure 1 Proxy server, and Middlebox function specific policy rules and other attributes). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the dividing of the total context of Middlebox NPL with the network structure of Lakshmi Narayanan et al. in order to have a network intermediary device that performs one or more services.

Re claim 10, Note that Lakshmi Narayanan et al. discloses transferring dynamic context (context transfer) associated to a data packet flow, when a data packet flow is moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in an access point (AR1) in said first domain or to a middlebox (AAA) of an access point (AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 Para 2 and 3).

Re claim 11, Note that Middlebox NPL teaches A method of keeping in the Midcom Agent (MIDCOM agent) of the first domain the common context (application specific processing) of data packet flows of a session and the control (invoke services of the middlebox) of the dynamic context (permit access) of each flow in middleboxes through which the data packets of the session flows as long as there is one flow belonging to said session in said first domain (page 8 fig 1 and page 9 lines 1- 9).

Re claim 17, Note that Middlebox NPL discloses a Midcom Agent (Midcom agent) for handling context of data packet flows in a network system, wherein the network system comprises:- Means for dividing the total context associated to a session into common context, which is common to all flows of the session (page 9 lines 5 and 6 middlebox to delegate application specific processing to the midcom agent), and one dynamic context per data packet flow of the session;

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- Means for storing said common context in a Midcom Agent of a first domain of the network structure(see page 8 fig 1 proxy server and page 9 lines 5 and 6 middlebox to delegate application specific processing to the midcom agent);

Means for storing each dynamic context in a middlebox through which the associated flow passes Page 8 Figure 1 proxy server and Middlebox function specific policy rules and other attributes).

Re claim 18, Note that Lakshmi Narayanan et al. discloses transferring dynamic context (context transfer) associated to a data packet flow, when a data packet flow is moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in an access point (AR1) in said first domain or to a middlebox (AAA) of an access point (AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 Para 2 and 3).

Re claim 19, Note that Middlebox NPL teaches A method of keeping in the Midcom Agent (MIDCOM agent) of the first domain the common context (application specific processing) of data packet flows of a session and the control (invoke services of the middlebox) of the dynamic context (permit access) of each flow in middleboxes through which the data packets of the session flows as long as there is one flow belonging to said session in said first domain(page 8 fig 1 and page 9 lines 1- 9).

Re claim 27, Note that Narayana et al. teaches a method , further comprising at the Midcom Agent dividing the total context associated to the session into the common context and the one dynamic context per data packet flow of the session (Col 3 lines 17-21 teaches of dividing the total context into common context and dynamic context. The

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Midcom agent is not relevant because the limitations taught by the claim are taught by the reference too.).

Allowable Subject Matter

6. Claims 4-8 12-16 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination including a method of determining whether all flows belonging to the session are moved from the first domain, or not; transferring the common context of a session flow from the Midcom Agent of the first domain to a Midcom Agent of a second domain having at least one of said flows, if all said flows have been transferred from said first domain; transferring the control of the associated dynamic context stored in the middleboxes through which the data packets of the session flows from the Midcom Agent of the first domain to a Midcom Agent of a second domain having at least one of said flows, if all said flows have been transferred from said first domain; establishing communication between the two Midcom Agents MA1 and MA2

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination including a network system with means for determining whether all flows belonging to the session are moved from the first domain, or not; Means for Transferring the common context of a session flow and the control of the associated dynamic context stored in the middleboxes through which the data packets of the session flows from the

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Midcom Agent of the first domain to a Midcom Agent of a second domain having at least one of said flows, if all said flows have been transferred from said first domain; Means for establishing communication between the two Midcom Agents MA1 and MA2.

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination including a means for determining whether all flows belonging to the session are moved from the first domain, or not; Means for Transferring the common context of a session flow and the control of the associated dynamic context stored in the middleboxes through which the data packets of the session flows from the Midcom Agent of the first domain to a Midcom Agent of a second domain having at least one of said flows, if all said flows have been transferred from said first domain; Means for establishing communication between the two Midcom Agents MA1 and MA2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJAY P. CATTUNGAL whose telephone number is (571)270-7525. The examiner can normally be reached on Monday- Friday 7:30 - 5:00, Alternating Fridays OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on 571-272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. P. C./
Examiner, Art Unit 2419

/Pankaj Kumar/
Supervisory Patent Examiner, Art Unit 2419